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Wataru Ito

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EXAMINER

RASHID, DAVID

ART UNIT

PAPER NUMBER

2624

NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/761,261	Applicant(s) ITO, WATARU	
	Examiner DAVID P. RASHID	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

[1] All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Continued Examination Under 37 CFR 1.114

[2] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 29, 2008 has been entered.

Amendments

[3] This office action is responsive to the Claim and specification amendment received on February 29, 2008. Claims 2-19 remain pending; Claims 15-19 new.

Claim Rejections-35 USC § 103

[4] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[5] **Claims 2, 4-5, 7, 11-13 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,108,437 (filed Feb. 20, 1998) (issued Aug. 22, 2000) [*hereinafter* "Lin"] in view of U.S. Pub. No. 2002/0126880 (filed Mar. 7, 2002) (published Sept. 12, 2002) [*hereinafter* "Dobashi"].

[i] Regarding **Claim 2**, while *Lin* a personal authentication apparatus (fig. 1) for certifying that a user is the user (1:64-67), comprising:

a memory (“database” in 1:64-67 and 5:63-6:3) holding a face-picture of the user therein;

an image pickup unit (fig. 1, item 10) taking a face-picture (“image” in fig. 1A) of said user (fig. 1, item 1);

a particular person comparing unit (fig. 9, items 905 through 919; 6:48-67) comparing said user's face-picture taken by said image pickup unit with a face-picture of a particular person, who is categorized as of a special concern (*refer to argument s. 12*), held therein in advance (9:48-56; fig. 9, item 401), outputting as comparison result a degree of similarity therebetween (fig. 9, items 905 through 919 outputs a degree of similarity to items 901, 903 to identify the face), and deciding whether said degree of similarity is determined;

a personal picture acquiring unit (fig. 1, item 40; fig. 9, item 401) for acquiring the face-picture of the user from said memory (“database” in 1:64-67 and 5:63-6:3); and

an authentication unit (fig. 1A, item 37; fig. 9, items 901, 903), when said degree of similarity is determined, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter (“highest confidence level” in 9:56-61 considered “identical”) than the method used therebefore, *Lin* does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (fig. 1) that teaches a particular person comparing unit (fig. 1, item 107) deciding whether a degree of similarity is higher than a predetermined value (§ 0055).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of *Lin* to decide whether a degree of similarity is higher than a predetermined value as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, ¶ 0008.

Lin in view of *Dobashi* would then inherently have an authentication unit, when said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of *Lin* in view of *Dobashi*), deciding whether or not said user’s face-picture is identical with the face-picture of the user by a method stricter than the method used therefore.

[ii] Regarding **Claim 4**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, *Lin* in view of *Dobashi* does not teach said authentication unit increasing the number of the features that are extracted from each of the user’s face-picture and the face-picture of the user in order to decide with more strict reference.

Dobashi discloses a face image recognition apparatus (fig. 1) wherein an authentication unit (fig. 9, item 9) increases the number of the features (fig. 9, items 108, 109; ¶¶ 0070, 0071) that are extracted from each of the user’s face-picture (fig. 9, item 105) and the

face-picture of the user (fig. 9, item 100) in order to decide with more strict reference (¶¶ 0070, 0071 will thus create a “more strict reference”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of *Lin* in view of *Dobashi* to increase the number of the features that are extracted from each of the user's face-picture and the face-picture of the user in order to decide with more strict reference as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, ¶ 0008.

[iii] Regarding **Claim 5**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, *Lin* in view of *Dobashi* does not teach said authentication unit further acquires new features of appearance of the user to decide with more strict reference, and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features.

Dobashi discloses a face image recognition apparatus (fig. 1) wherein an authentication unit (fig. 9, item 9) further acquires new features of appearance (fig. 9, items 108, 109; ¶¶ 0070, 0071) of the user (fig. 9, item 100) to decide with more strict reference (¶¶ 0070, 0071 will thus create a “more strict reference”), and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features (fig. 9, item 107).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of *Lin* in view of *Dobashi* to acquire new features of appearance of the user to decide with more strict reference, and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features as taught by *Dobashi* "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", *Dobashi*, ¶ 0008.

[iv] Regarding **Claim 7**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, *Lin* in view of *Dobashi* does not teach the authentication unit changes the type of the features that are extracted from each of the user's face-picture and the face-picture of the user.

Dobashi discloses a face image recognition apparatus (fig. 1) wherein an authentication unit (fig. 9, item 9) changes the type of the features (fig. 9, items 108, 109; ¶¶ 0070, 0071) that are extracted from each of the user's face-picture (fig. 9, item 105) and the face-picture of the user based upon the comparison result ("recognition rate" in ¶ 0071) by the particular person comparing unit (fig. 9, item 107).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of *Lin* in view of *Dobashi* to change the type of the features that are extracted from each of the user's face-picture and the face-picture of the user

based upon the comparison result by the particular person comparing unit as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, ¶ 0008.

[v] Regarding **Claim 11**, while *Lin* discloses further comprising a person deciding apparatus (fig. 13, item 100B; 5:5-16) installed in a place other than that of said personal authentication apparatus (fig. 13, item 100A; fig. 1A, item 37; fig. 9, items 901, 903), deciding whether or not said user is the user (“closest set” and “confidence level” in 9:48-56 wherein the user’s face-picture is “similar” if the particular person comparing unit receives the face-picture from the face recognizer server), wherein when said degree of similarity determined, said authentication unit transmits (5:5-16 sending the information from 100A to 100B) said user’s face picture to said person deciding apparatus, *Lin* does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (fig. 1) that teaches a particular person comparing unit (fig. 1, item 107) deciding whether a degree of similarity is higher than a predetermined value (¶ 0055).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of *Lin* to decide whether a degree of similarity is higher than a predetermined

value as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, ¶ 0008.

[vi] Regarding **Claim 12**, while *Lin* discloses wherein the image pickup unit (fig. 1, item 10) includes a first image pickup unit (fig. 1, item 10; the image pickup unit before face alignment; 6:36-47) and a second image pickup unit (the image pickup unit after face alignment; 6:36-47),

the particular person comparing unit (fig. 9, items 905 though 919) compares the user's face-picture (“image” in fig. 1A) taken by the first image pickup unit (fig. 1, item 10; the image pickup unit before face alignment; 6:36-47) with the face-picture of the particular person (fig. 1, item 1),

when said degree of similarity is not enough, said authentication unit (fig. 1A, item 37; fig. 9, items 901, 903) decides whether or not the user's face-picture taken by the first image pickup unit is identical (the authentication unit automatically “decides” that the user’s face-picture is not identical since no recognized face is present) with the face-picture of the user,

when said degree of similarity is not enough, said authentication unit decides whether or not the user's face-picture taken by the second image pickup unit (the image pickup unit after face alignment; 6:36-47) is identical (refer to references/arguments cited in Claim 2) with the face-picture of the user, *Lin* does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (fig. 1) that teaches a particular person comparing unit (fig. 1, item 107) deciding whether a degree of similarity is higher than a predetermined value (§ 0055).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of *Lin* to decide whether a degree of similarity is higher than a predetermined value as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, § 0008.

[vii] Regarding **Claim 13**, *Lin* discloses wherein the second image pickup unit generates a face-picture (the image pickup unit after face alignment; 6:36-47) having more amount of information (once the face is aligned, feature extractor item 35, and voting circuit 37 may proceed to extract more information from the image) than that of the face-picture taken by said first image pickup unit (fig. 1, item 10; the image pickup unit before face alignment; 6:36-47).

[viii] Regarding **Claim 15**, *Lin* discloses wherein the personal picture acquiring unit (fig. 1, item 40; fig. 9, item 401) acquires the face-picture (“image” in fig. 1A) of said user (fig. 1, item 1) from said memory (“database” in 1:64-67 and 5:63-6:3) based on personal identification information (fig. 2, item 201 wherein the personal identification information is the image of the user’s face) of the user.

- [ix] Regarding **Claim 19**, *Lin* discloses a personal authentication apparatus (fig. 1) for authenticating a user, comprising:
- a memory (“database” in 1:64-67 and 5:63-6:3) storing a face-picture (fig. 2, item 201) of the user (fig. 1, item 1) therein;
 - an image pickup unit (fig. 1, item 10) taking a face-picture (“image” in fig. 1A) of said user (fig. 1, item 1);
 - a particular person comparing unit (the unit responsible for carrying out fig. 2) comparing (fig. 2, item 209) said user's face-picture taken by said image pickup unit (fig. 1, item 10) with a face-picture of a particular person of interest (“database of candidates” in 2, line 65), wherein the stored face-picture of the user is different from the stored-face-picture of the person of interest (the input image is different to the image compared to in the database), outputting as comparison result a degree of similarity therebetween (fig. 2, item 209 is to determine whether the face is registered), and deciding whether said degree of similarity is determined;
 - a personal picture acquiring unit (fig. 1, item 40; fig. 9, item 401) for acquiring the face-picture of the user from said memory (“database” in 1:64-67 and 5:63-6:3); and
 - an authentication unit (the unit responsible for carrying out fig. 2), when said degree of similarity is determined (“Y” or “N” from item 209 in fig. 2), determining whether or not said user's face-picture taken by the image pick-up unit is identical with the stored face-picture of the user by a first method (the first method is proceeding from item 209 through item 215), and when said degree to similarity is lower than said degree of similarity (“N” from item 209 in fig. 2), determining whether or not said user's face picture taken by the image pick-up unit

is identical with the stored face picture of the user by a second method (item 217 in fig. 2 includes “align[ing] his head for retaking the picture by camera 10”, 6:44-47 and thus proceeding through all the steps in fig. 2 again; in essence, the second method is the first method + retaking a picture), the first method being different than the second method (first method is items 209 through 215, the second method is retaking a picture + items 203 through 215), *Lin* does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (fig. 1) that teaches a particular person comparing unit (fig. 1, item 107) deciding whether a degree of similarity is compared to a predetermined value (¶ 0055).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of *Lin* to decide whether a degree of similarity is compared to a predetermined value as taught by *Dobashi* AND for said degree of similarity in the particular person comparing unit of *Lin* to be higher than the predetermined value as taught by *Dobashi* AND for said degree to similarity in the authentication unit of *Lin* to be higher or lower than the predetermined value as taught by *Dobashi* “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, *Dobashi*, ¶ 0008.

Lin in view of *Dobashi* would then inherently have an authentication unit, when said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of *Lin* in view of *Dobashi*), deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therefore.

[6] **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Lin* in view of *Dobashi* and U.S. Patent No. 5,781,650 (filed Aug. 28, 1997) (issued Jul. 14, 1998) [*hereinafter* “Lobo”].

[i] Regarding **Claim 3**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, and while *Lin* in view of *Dobashi* discloses wherein when the particular person comparing unit decides that the degree of similarity is higher than a predetermined value, the authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user (refer to references/arguments cited in Claim 2), *Lin* in view of *Dobashi* does not teach using the image pickup unit heightens resolution or gradation, taking the user's face-picture again, and said authentication unit deciding whether or not said user's face-picture having the enhanced resolution or gradation is identical with the face-picture of the user.

Lobo discloses an automatic feature detection and age classification of human faces in digital images (fig. 1B) that includes extracting wrinkle features (“STEP 3: COMPUTE WRINKLE ANALYSIS” in 23, line 49) by using an image pickup unit (fig. 1B, item 10) to heighten resolution (“...take higher resolution images...” in 23, line 65-24, line 5) or gradation and taking the user's face-picture again (the process of taking higher resolution images requires taking the user's face-picture again).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for

(i) the image pickup unit of *Lin* in view of *Dobashi* to heighten resolution or gradation and taking the user's face-picture again, and

(ii) the authentication unit of *Lin* in view of *Dobashi* to use the enhanced resolution or gradation image as one of its feature extractions (*Lin*, fig. 9) to decide whether or not said user's face-picture having the enhanced resolution or gradation is identical with the face-picture of the user as taught by *Lobo* "...to provide a method of finding facial features exist from the detected human face...", 2:44-45 and "...to categorize age based on facial features, facial feature ratios and wrinkle analysis...", 2:49-50.

[7] **Claim 6, 9-10, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lin* in view of *Dobashi* and U.S. Pub. No. 2002/0176610 (filed May 24, 2002) (published Nov. 28, 2002) [*hereinafter* "Okazaki"].

[i] Regarding **Claim 6**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, wherein *Lin* discloses the image pickup unit (fig. 1, item 10) takes the user's face-pictures as an animated image (5:28-35), the personal picture acquiring unit (fig. 9, items 905 though 919) acquires the animated image of the face-pictures of the user from said memory ("database" in 1:64-67 and 5:63-6:3), when said degree of similarity is higher than said predetermined value, said authentication unit identifies a similar face, *Lin* in view of *Dobashi* does not disclose when said degree of similarity is higher than said predetermined value, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by comparing a plurality

of frames in the animated image of said user's face-pictures with a plurality of frames in the animated image of the face-pictures of the user.

Okazaki discloses a face image recording system (fig. 4; fig. 6) wherein an authentication unit (fig. 6, item 30) decides whether or not the user's face-picture (fig. 3, item 44) is identical ("the processor 31 records this image" in ¶ 0087 to further allow the decision whether or not the user's face-picture is identical) with the face-picture of the user by comparing a plurality of frames in the animated image (fig. 3, fig. 4, item 2; "video camera" in ¶ 0072) of the user's face-pictures (fig. 1, item 1) with a plurality of frames in the animated image of the face-pictures of the user (fig. 17 wherein the animated image of the face-pictures of the user are the images from video taken over each login time).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of *Lin* in view of *Dobashi* to disclose deciding whether or not the user's face-picture is identical with the face-picture of the user by comparing a plurality of frames in the animated image of said user's face-pictures with a plurality of frames in the animated image of the face-pictures of the user as taught by *Okazaki* "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", *Okazaki*, ¶ 0018.

[ii] Regarding **Claim 9**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, wherein the personal authentication apparatus certifies that a

plurality of users is the user respectively, said particular person comparing unit compares the user's face-picture taken by the image pickup unit with the face-pictures of a plurality of the particular persons (refer to references/arguments cited in Claim 2), *Lin* in view of *Dobashi* does not teach

a log holding unit for holding information of when the certification for each of said users is performed and whether or not said degree of similarity is higher than a predetermined value, the information being associated with the user,

said authentication unit decides what standard should be used for deciding whether or not said users are the user using said information held in said log holding unit.

Okazaki discloses a face image recording system (fig. 4; fig. 6) that teaches

a log holding unit (“record a user’s face image as log data” in ¶ 0003) for holding information of when the certification for each of said users is performed (“date and time” in ¶ 0135 is information associated with each user), the information being associated with the user,

said authentication unit decides what standard (fig. 17; ¶ 0175) should be used for deciding whether or not said users are the user (fig. 6, items 34, 38) using said information held in said log holding unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of *Lin* in view of *Dobashi* to disclose a log holding unit for holding information of when the certification for each of said users is performed and whether or not said degree of similarity is higher than a predetermined value, the information being associated with the user, said authentication unit decides what standard should be used for deciding whether or not said users are the user using said information held in said log holding

unit as taught by *Okazaki* "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", *Okazaki*, ¶ 0018.

Lin in view of *Dobashi* and *Okazaki* would then inherently have a log holding unit that would store whether or not said degree of similarity is higher than a predetermined value when holding information of when the certification of each of said users is performed (from the personal picture acquiring unit of *Lin* in view of *Dobashi*).

[iii] Regarding **Claim 10**, while *Lin* in view of *Dobashi* and *Okazaki* discloses the personal authentication apparatus as claimed in Claim 9, wherein each of said plurality of particular persons is the person of special concern (*refer to argument s. 12*), *Lin* in view of *Dobashi* and *Okazaki* do not teach when said degree of similarity is higher than said predetermined value at plural times within a predetermined time, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by a standard stricter than the standard used therebefore.

Okazaki discloses a face image recording system (fig. 4; fig. 6) that teaches wherein each of the plurality of particular persons (fig. 6, items 34, 38) is the suspected person (fig. 4, item H), when said degree of similarity is determined at plural times within a predetermined time ("predetermined time" in ¶ 0087), the authentication unit (fig. 6, item 30) decides whether or not the user's face-picture is identical ("the processor 31 records this image" in ¶

0087 to further allow the decision whether or not the user's face-picture is identical) with the face-picture of the user by a standard stricter than the standard used therebefore.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of *Lin* in view of *Dobashi* and *Okazaki* to disclose wherein when said degree of similarity is higher than said predetermined value at plural times within a predetermined time, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by a standard stricter than the standard used therebefore as taught by *Okazaki* "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", *Okazaki*, ¶ 0018.

Lin in view of *Dobashi* and *Okazaki* would then inherently have an authentication unit, when said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of *Lin* in view of *Dobashi*), deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therefore.

[iv] Regarding **Claim 16**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 15, *Lin* in view of *Dobashi* does not disclose wherein the personal identification information of the user is acquired from an IC card of the user.

Okazaki discloses a face image recording system (fig. 4; fig. 6) that teaches wherein personal identification information (“personal identification” at ¶ 0009) of the user is acquired from an IC card (“IC card” at ¶ 0009) of the user.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of *Lin* in view of *Dobashi* to include wherein the personal identification information of the user is acquired from an IC card of the user as taught by *Okazaki* “...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.”, *Okazaki*, ¶ 0018.

[8] **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Lin* in view of *Dobashi*, *Lobo*, and U.S. Patent No. 5,163,094 (filed Mar. 20, 1991) (issued Nov. 10, 1992) [*hereinafter* “Prokoski”].

[i] Regarding **Claim 8**, while *Lin* in view of *Dobashi* and *Lobo* disclose the personal authentication apparatus as claimed in Claim 3, wherein when said degree of similarity is higher than said predetermined value, said image pickup unit takes said user’s face picture by irradiating light to said user (refer to references/arguments cited in Claims 2), *Lin* in view of *Dobashi* and *Lobo* do not teach wherein said image pickup unit takes the user's face-picture by irradiating an invisible light to the user, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user using the user's face-picture taken by irradiation of the invisible light.

Prokoski discloses a method for identifying individuals from analysis of itemal shapes derived from biosensor data (fig. 1) that includes extracting infrared features (4:43-46; fig. 5) by using an image pickup unit (fig. 1, item 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for

(i) the image pickup unit of *Lin* in view of *Dobashi* and *Lobo* to irradiate an invisible light (infrared) to the user, and

(ii) the authentication unit of *Lin* in view of *Dobashi* and *Lobo* to use the infrared image as one of its feature extractions (*Lin*, fig. 9) to decide whether or not the user's face-picture is identical as taught by *Prokoski* "...to provide a method for identifying individuals from biosensor data.", column 3:19-21.

[9] **Claims 14 and 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lin* in view of *Dobashi* and U.S. Pub. No. 2002/0167403 (filed Mar. 15, 2001) (published Nov. 14, 2002) [*hereinafter* "Colmenarez"].

[i] Regarding **Claim 14**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 2, *Lin* in view of *Dobashi* does not teach wherein said personal authentication apparatus is coupled to another personal authentication apparatus that is provided separately along the path though which said user passes, and wherein when said degree of similarity is decided higher than a predetermined value, said authentication unit acquires the user's face-picture from said another personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit is

identical with the face-picture of the user using said user's face-picture acquired by said another personal authentication apparatus.

Colmenarez discloses an automatic system for monitoring persons entering and leaving changing rooms (fig. 1) wherein a personal authentication apparatus (fig. 1, items 5, 10) is coupled to another personal authentication apparatus (fig. 1, item 5, 15) that is provided separately along the path through which a user passes (fig. 1, item 65), and wherein when a degree of similarity is determined, a authentication unit acquires the user's face-picture (fig. 1, item 20) from said another personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit (fig. 1, item 10) is identical with the face-picture of the user using said user's face-picture ("face-recognition is used" in ¶ 0009) acquired by said another personal authentication apparatus.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of *Lin* to include wherein said personal authentication apparatus is coupled to another personal authentication apparatus that is provided separately along the path through which said user passes, and wherein when said degree of similarity is decided higher than a predetermined value, said authentication unit acquires the user's face-picture from said another personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit is identical with the face-picture of the user using said user's face-picture acquired by said another personal authentication apparatus as taught by *Colmenarez* so that "...the problem of comparing customer data is reduced to a comparison of images of the entering and leaving customers.", *Colmenarez*, ¶ 0030.

Lin in view of *Dobashi* would then inherently have an authentication unit such that said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of *Lin* in view of *Dobashi*).

- [ii] Regarding **Claim 17**, while *Lin* in view of *Dobashi* discloses the personal authentication apparatus as claimed in Claim 5, wherein said newly acquired features comprises features included in a body picture of said user (fig. 1, item 1), *Lin* in view of *Dobashi* does not teach a whole body picture.

Colmenarez discloses an automatic system for monitoring persons entering and leaving changing rooms (fig. 1) that teaches wherein newly acquired features comprises features included in a whole body picture of said user (the line-of-sight of items 10,15 are represented by dashed lines in fig. 1, which include the whole body picture).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the newly acquired features comprising features included in a body picture of said user of *Lin* to be a whole body picture of said user as taught by *Colmenarez* so that "...the problem of comparing customer data is reduced to a comparison of images of the entering and leaving customers.", *Colmenarez*, ¶ 0030 and "the height, body size, gait, and other features of the person may be classified and compared for the entering and leaving video signals to insure they are of the same person.", *Colmenarez*, ¶ 0010.

- [iii] Regarding **Claim 18**, while *Lin* in view of *Dobashi* and *Colmenarez* discloses the personal authentication apparatus as claimed in Claim 14, *Lin* in view of *Dobashi* and *Colmenarez* do not disclose wherein said user's face-picture acquired from said another

personal authentication unit comprises a face-picture taken before said user has passed through the path.

Colmenarez discloses an automatic system for monitoring persons entering and leaving changing rooms (fig. 1) that teaches wherein said user's face-picture acquired from said another personal authentication unit (fig. 1, item 5, 15) comprises a face-picture taken before (The another personal authentication unit takes two pictures, one before and after the dressing room. The second time the user passes through the path, the face-picture was taken beforehand when he passed through the first time.) said user has passed through the path (fig. 1, element 1).

Response to Arguments

[10] Applicant's arguments filed on February 29, 2008 with respect to **Claims 2-14** have been respectfully and fully considered, they are not found persuasive.

[11] **Summary of Remarks** regarding **Claim 2:**

Applicant argues the Examiner further asserts that "under this interpretation of the word "suspect", it is fair to say that *Lin* discloses a face registration method that suspects the user is registered (i.e. a particular person who is characterized as suspected), based on the proof that the image analysis algorithm is calculating on the basis of that suspected belief." However, the Examiner appears to be disregarding the Claim elements.

Applicant argues also argues Claim 2 clearly recites "a particular person comparing unit comparing said user's face- picture taken by said image pickup unit with a face-picture of a particular person, who is categorized as of a special concern." Further Claim 2 clearly recites "an authentication unit, when said degree of similarity is higher than said predetermined value, deciding whether or not

said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therebefore." Regardless of the definition of the term, there is no teaching directed to a particular person comparing unit comparing said user's face-picture taken by said image pickup unit with a face-picture of a particular person, who is categorized as of a special concern, held therein in advance, outputting as comparison result a degree of similarity therebetween, and deciding whether said degree of similarity is higher than a predetermined value and an authentication unit, when said degree of similarity is higher than said predetermined value, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therebefore. (Applicant Resp. at 8-9, February 29, 2008.)

[12] Examiner's Response regarding Claim 2:

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out (other than the bold-type font used) how the language of the claims patentably distinguishes them from the references.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made (other than the bold-type font used). Further, they do not show how the amendments avoid such references or objections.

In view of amending "a particular person...who is categorized as of a special concern", the Examiner asserts that categorizing someone of "special concern" no more limits the claim than someone "as suspected". A person of special concern again is not just a random person. So long as there is some degree of weight in concern that makes them "special". Under this interpretation, it is

fair to say that *Lin* discloses a face registration method that is especially concerned that the user is registered (i.e. a particular person who is categorized as of special concern as the *Li* discloses an invention that anticipates and tests if the particular person is registered, and thus of "special concern). This reasoning is again also true for both *Dobashi* and *Okazaki*.

The Examiner again suggests the Applicant further limit the broad scope of that particular element to possibly overcome the prior art of record-such as what limiting criteria being sought for the truth of a person under special concern (*i.e.* more limiting characteristic that makes the person a suspect and of special concern, *e.g.* a person with a prior criminal record).

Conclusion

[13] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5781650 A; US 5802220 A; US 5850463 A; US 5933527 A; US 5982373 A; US 5991429 A; US 6016148 A; US 6072894 A; US 20010016820 A1; US 6292575 B1; US 20020113862 A1.

[14] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday-Friday 8:30-17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2624

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

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